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EXAMINER	
PERILLA, JASON M	
ART UNIT	**PAPER NUMBER**
2634	4

DATE MAILED: 07/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No.	Applicant(s)	
	09/779,530	ABRISHAMI, MEHRDAD	
	Examiner	Art Unit	
	Jason M Perilla	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 15 June 2004.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1,2 and 4-34 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) 24-28 is/are allowed.

6)☒ Claim(s) 1,2,4,5,9,10,13-23 and 29-32 is/are rejected.

7)☒ Claim(s) 6-8,11,12,33 and 34 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 09 February 2001 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-2, and 4-34 are pending in the instant application.

Response to Arguments/Amendments

2. Applicant's arguments, see page 15, filed June 15, 2004, with respect to claim 1 have been fully considered and are persuasive *in view of the amendments to the claims as discussed.* Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made.

Claim Objections

3. Claim 4 is objected to because it fails to further limit the parent claim 1. The parent claim 1 already provides for resuming the transmission of signals by transmitting a receive ready (RR) frame. Claim 4 tends to be indefinite because it fails to properly and conclusively limit parent claim 1.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Strauss et al (5940598; hereafter "Strauss") in view of Scott (5852631), in further view of Shaffer et al (6021114; hereafter "Shaffer")

Regarding claim 29, Strauss discloses a gateway for voice band data transmission over a network comprising a first modem connected to the gateway (fig. 6,

ref. 616; col. 7, line 30-col. 8, line 26), a second modem connected to a second gateway, and a narrowband network connecting the gateway and the second gateway (fig. 6, ref. 610), the gateway comprising: a voice band data modem for demodulating signals received from a first user modem to generate demodulated data for transmission over the narrowband network (fig. 4, refs. 114 and 132; col. 7, lines 56-63), and for modulating data received from the narrowband network; a voice band data protocol for inter-networking of the first and second modems (fig. 4, ref. 130; col. 11, lines 12-55). Strauss does not show modems in figure 6, however, it is disclosed that the method is applicable to the transfer of voice band data modulated signals from a modem to the first gateway (col. 7, line 49; col. 12, lines 42-60) and between the second gateway and the second modem (col. 13, lines 65-67). On the receiving side, the voice phone of figure 6 (620) is applicable as a data modem and the second gateway as depicted in figure 5 may be present (col. 13, lines 65-67) although it is not shown in figure 6. Strauss discloses the gateway as a network server and it is shown by figure 5. The purpose of the network server or gateway of figure 5 is to interface a plurality of voice band plain old telephone service (POTS) information such as voice, voice band data (modem), or fax data over a pure data network (narrowband network) such as the internet. It is inherent that the modulated signals from the first modem received at the first gateway would be demodulated before they are transmitted over the internet. The data sent over the narrowband network is compressed, packetized, and transmitted as pure digital data by the TCP/IP internet protocol (col. 11, lines 23-25). Hence, it is no longer modulated. After reception by the second gateway, it is inherent that the pure

data would be re-modulated so that it could be captured by a receiving modem at the other end. Strauss does not disclose a partial V.42 protocol for establishing an end-to-end error correcting protocol between the first and second modems. However, modems are notoriously known in the art and the use of error correcting protocol is notoriously known in the art as being applied in voice band data modems. Further, Scott teaches a system for establishing error correction over a pair of modems by figures 1-8. Scott also teaches the use of the ITU protocol standards which are unequivocally applied throughout modems in the art for establishing communication links between modems and applying error correction protocols (col. 1, lines 55-col. 2, line 54). Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to establish an end-to-end error correction protocol as taught by Scott by a partial V.42 protocol over the data transmission path *including the narrowband network* of Strauss because the use of error correction protocol is widely known to be used to increase data throughput and accuracy over transmission paths used by voice band modems. The *particular* method of creating an end-to-end error correcting protocol withstanding, it is plainly obvious to one of skill in the art that an end-to-end error protocol is applicable to the transmission path of Strauss as it is clearly analogous to that of the transmission path of Scott.

Further regarding claim 29, Strauss in view of Scott do not disclose monitoring at the first gateway the demodulated data to be transmitted over the narrowband network, suspending the transmission of signals from the first modem if a transmission rate of the demodulated data to be transmitted over the narrowband network exceeds a first value;

and resuming the transmission of signals from the first modem if the transmission rate is less than a second value. However, Shaffer discloses a method of utilizing a communications line wherein data to be transmitted over a narrowband network is suspended if a transmission rate of the data to be transmitted over the narrowband network exceeds a first value (above threshold); and resuming the transmission of signals if the transmission rate is less than a second value (below threshold) (fig. 2, col. 5, line 30-col. 6, line 53). Therefore, it would have been obvious to one having ordinary skill in the art to monitor the data traffic as taught by Shaffer in the method of Strauss in view of Scott because the capacity of the narrowband network could be appropriately utilized depending on the overall data traffic.

6. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Strauss in view of Scott, in further view of Shaffer, and in further view of Galuszka et al (5301186; hereafter "Galuszka").

Regarding claim 30, Strauss in view of Scott and in further view of Shaffer disclose the limitations of claim 29 as applied above. Strauss does disclose the use of a data buffer in each of the gateways (col. 10, lines 56-58). Strauss in view of Scott and in further view of Shaffer do not disclose storing the demodulated data to be transmitted over the narrowband network in a transmit buffer and comparing an amount of the demodulated data stored in the transmit buffer to a third value to determine if the transmission of the modulated signals from the first modem should be suspended. However, Galuszka does disclose the use of both receive and transmit (fig. 2, refs. 53 and 59) first-in-first-out (FIFO) buffers in a transceiver. Galuszka teaches that the

buffers may be used in conjunction with a threshold to allow a transmit processor time to reach the speed of the line (col. 8, lines 30-34). Galuszka also teaches that in the event of a buffer filled state, an error condition may be enacted by the FIFO buffer (col. 9, lines 63-67; col. 10, lines 11-14). The use of buffers in asynchronous communications systems is widely known in the art. It is obvious to use a buffer in the case where data rates may be changing between a reception node and a transmission node in a transmission path as taught by Galuszka. Further, in the case where a buffer meets a threshold state (buffer is full threshold), it is obvious to place the buffer in an error condition which signifies that no more data may be stored in the buffer (i.e. suspend additional data transmissions to the buffer) as taught by Galuszka. Therefore it would have been obvious to one of ordinary skill in the art at the time which the invention was made to store data to be transmitted over the narrowband network in a transmit buffer and compare an amount of the data stored in the transmit buffer to a third value threshold to determine if the transmission of the modulated signals from the first modem should be suspended as taught by Galuszka in the data transmission method of Strauss in view of Scott and in further view of Shaffer because the buffer is beneficial for accommodating a difference in transmission and reception rates at a system node in a transmission path to prevent the loss of data.

7. Claims 1, 2, 4, 5, 9, 10, 15, 18, 31, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strauss et al (5940598; hereafter "Strauss") in view of Scott (5852631), in further view of Shaffer et al (6021114; hereafter "Shaffer"), in further view

of Galuszka et al (5301186; hereafter "Galuszka"), and in further view of Hatta (5506839).

Regarding claim 1, Strauss discloses a method of data transmission between first and second modems over a network comprising a narrowband network, the method comprising: providing first and second gateways (fig. 6, ref. 616; col. 7, line 30-col. 8, line 26), the first gateway (fig. 6, ref. 616) connected to the first modem, the second gateway connected to the second modem, and the first and second gateways connected via the narrowband network (fig. 6, ref. 610); transmitting modulated signals from the first modem to the first gateway; demodulating the signals at the first gateway to obtain demodulated data (fig. 4, refs. 114 and 132; col. 7, lines 56-63); transmitting the demodulated data over the narrowband network (col. 8, lines 43-55); receiving the demodulated data at the second gateway (col. 8, lines 43-55); re-modulating the demodulated data at the second gateway; and transmitting the re-modulated signals from the second gateway to the second modem. Strauss does not show modems in figure 6, however, it is disclosed that the method is applicable to the transfer of voice band data modulated signals from a modem to the first gateway (col. 7, line 49; col. 12, lines 42-60) and between the second gateway and the second modem (col. 13, lines 65-67). On the receiving side, the voice phone of figure 6 (620) is applicable as a data modem and the second gateway as depicted in figure 5 may be present (col. 13, lines 65-67) although it is not shown in figure 6. Strauss discloses the gateway as a network server and it is shown by figure 5. The purpose of the network server or gateway of figure 5 is to interface a plurality of voice band plain old telephone service (POTS)

information such as voice, voice band data (modem), or fax data over a pure data network (narrowband network) such as the internet. It is inherent that the modulated signals from the first modem received at the first gateway would be demodulated before they are transmitted over the internet. The data sent over the narrowband network is compressed, packetized, and transmitted as pure digital data by the TCP/IP internet protocol (col. 11, lines 23-25). Hence, it is no longer modulated. After reception by the second gateway, it is inherent that the pure data would be re-modulated so that it could be captured by a receiving modem at the other end. Strauss does not disclose establishing an end-to-end error correcting protocol between the first and second modems. However, modems are known in the art and the use of error correcting protocol is notoriously known in the art as being applied in voice band data modems, and Scott teaches a system for establishing error correction over a pair of modems by figures 1-8. Scott also teaches the use of the International Telecommunications Union (ITU) protocol standards which are unequivocally applied throughout modems in the art for establishing communication links between modems and applying error correction protocols (col. 1, lines 55-col. 2, line 54). Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to establish an end-to-end error correction protocol as taught by Scott over the data transmission path *including the narrowband network* of Strauss because the use of error correction protocol is widely known to be used to increase data throughput and accuracy over transmission paths used by voice band modems. The *particular* method of creating an end-to-end error correcting protocol withstanding, it is plainly obvious to one of skill in

the art that an end-to-end error protocol is applicable to the transmission path of Strauss as it is clearly analogous to that of the transmission path of Scott.

Further regarding claim 1, Strauss in view of Scott do not disclose monitoring at the first gateway the demodulated data to be transmitted over the narrowband network, suspending the transmission of signals from the first modem if a transmission rate of the demodulated data to be transmitted over the narrowband network exceeds a first value; and resuming the transmission of signals from the first modem if the transmission rate is less than a second value. However, Shaffer discloses a method of utilizing a communications line wherein data to be transmitted over a narrowband network is suspended if a transmission rate of the data to be transmitted over the narrowband network exceeds a first value (above threshold); and resuming the transmission of signals if the transmission rate is less than a second value (below threshold) (fig. 2, col. 5, line 30-col. 6, line 53). Therefore, it would have been obvious to one having ordinary skill in the art to monitor the data traffic as taught by Shaffer in the method of Strauss in view of Scott because the capacity of the narrowband network could be appropriately utilized depending on the overall data traffic.

Further regarding claim 1, although Strauss does disclose the use of a data buffer in each of the gateways (col. 10, lines 56-58), Strauss in view of Scott and in further view of Shaffer do not explicitly disclose that the data waiting to be transmitted is waiting in a buffer. Strauss in view of Scott and in further view of Shaffer do not disclose storing the demodulated data to be transmitted over the narrowband network in a transmit buffer and comparing an amount of the demodulated data stored in the

transmit buffer to determine if the transmission of the modulated signals from the first modem should be suspended. However, Galuszka does disclose the use of both receive and transmit (fig. 2, refs. 53 and 59) first-in-first-out (FIFO) buffers in a transceiver. Galuszka teaches that the buffers may be used in conjunction with a threshold to allow a transmit processor time to reach the speed of the line (col. 8, lines 30-34). Galuszka also teaches that in the event of a buffer filled state, an error condition may be enacted by the FIFO buffer (col. 9, lines 63-67; col. 10, lines 11-14). The use of buffers in asynchronous communications systems is widely known in the art. It is obvious to use a buffer in the case where data rates may be changing between a reception node and a transmission node in a transmission path as taught by Galuszka. Further, in the case where a buffer meets a threshold state (buffer is full threshold), it is obvious to place the buffer in an error condition which signifies that no more data may be stored in the buffer (i.e. suspend additional data transmissions to the buffer) as taught by Galuszka. Therefore it would have been obvious to one of ordinary skill in the art at the time which the invention was made to store data to be transmitted over the narrowband network in a transmit buffer and compare an amount of the data stored in the transmit buffer to a third value threshold to determine if the transmission of the modulated signals from the first modem should be suspended as taught by Galuszka in the data transmission method of Strauss in view of Scott and in further view of Shaffer because the buffer is beneficial for accommodating a difference in transmission and reception rates at a system node in a transmission path to prevent the loss of data.

Further regarding claim 1, Strauss in view of Scott, in further view of Shaffer, and in further view of Galuszka do not explicitly disclose that suspending the transmission of signals further comprises: generating a valid RNR frame; modulating the RNR frame at the first gateway; and transmitting the RNR frame to the first modem. However, Hatta teaches the use of the International Telecommunications Union X.25 protocol standard using receive-not-ready (RNR) and receive-ready (RR) frames (col. 1, line 40-col. 2, line 48). Hatta teaches that in the case that transmission of data signals must be suspended, a RNR frame may be transmitted. Alternatively, when the data transmission is ready to resume, a RR frame may be transmitted. Such a protocol as taught by Hatta provided by the X.25 standard is widely utilized throughout the art and one skilled in the art understands the obvious application of it. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize RNR and RR frames as taught by Hatta in the data transmission method of Strauss in view of Scott, in further view of Schaffer and in further view of Galuszka because the RNR and RR frames will signify the state of the transceiver such that data is not lost when data is not ready to be accepted and reception may commence once a receiver is ready.

Regarding claim 2, Strauss in view of Scott, in further view of Shaffer, in further view of Galuszka, and in further view of Hatta disclose the limitations of claim 1 as applied above. Further, Galuszka does disclose the use of both receive and transmit (fig. 2, refs. 53 and 59) first-in-first-out (FIFO) buffers in a transceiver. Galuszka teaches that the buffers may be used in conjunction with a threshold to allow a transmit

processor time to reach the speed of the line (col. 8, lines 30-34). Galuszka also teaches that in the event of a buffer filled state, an error condition may be enacted by the FIFO buffer (col. 9, lines 63-67; col. 10, lines 11-14). The use of buffers in asynchronous communications systems is widely known in the art. It is obvious to use a buffer in the case where data rates may be changing between a reception node and a transmission node in a transmission path as taught by Galuszka. Further, in the case where a buffer meets a threshold state (buffer is full threshold), it is obvious to place the buffer in an error condition which signifies that no more data may be stored in the buffer (i.e. suspend additional data transmissions to the buffer) as taught by Galuszka.

Regarding claim 4, Strauss in view of Scott, in further view of Shaffer, in further view of Galuszka, and in further view of Hatta disclose the limitations of claim 3 as applied above. Further, Hatta teaches the use of the International Telecommunications Union X.25 protocol standard using receive-not-ready (RNR) and receive-ready (RR) frames (col. 1, line 40-col. 2, line 48). Hatta teaches that in the case that transmission of data signals must be suspended, a RNR frame may be transmitted. Alternatively, when the data transmission is ready to resume, a RR frame may be transmitted. Such a protocol as taught by Hatta provided by the X.25 standard is widely utilized throughout the art and one skilled in the art understands the obvious application of it. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize RNR and RR frames as taught by Hatta in the data transmission method of Strauss in view of Scott, in further view of Schaffer and in further view of Galuszka because the RNR and RR frames will signify the state of the

transceiver such that data is not lost when data is not ready to be accepted and reception may commence once a receiver is ready.

Regarding claim 5, Strauss in view of Scott, in further view of Shaffer, in further view of Galuszka, and in further view of Hatta disclose the limitations of claim 4 as applied above. Further, Hatta discloses a supervisory frame generating circuit (fig. 5, ref. 26; col. 6, lines 35-40). The purpose of a supervisory frame is to maintain proper communications by the use of RNR and RR frames. As applied above, the use of such RNR and RR frames is applicable in numerous instances in data communications methods and are well understood. In view of the ITU X.25 protocol standard and the RR and RNR frames it is obvious to maintain at the first gateway a first value indicating a current flow control state of the first modem. Further, during an RR to a RNR transition it is obvious to receive at the one end or first gateway a supervisory frame from the other transmitting end or narrowband network, a supervisory frame for control of flow of data, the supervisory frame including new control value (a second value) indicating a new flow control state; comparing the first and second values; modifying the supervisory frame from an RR frame to a valid RNR frame if the first value does not match the second value (change state accordingly); and transmitting the RNR frame to the first modem. It is asserted by the Examiner that limitations in the claim which only provide one of a plurality of applicable assertions of a standardized protocol notoriously known in the art does not constitute a new or novel approach of using the protocol and can not be considered patentable. Indeed, such assertions are obvious.

Regarding claim 9, Strauss in view of Scott, in further view of Shaffer, in further view of Galuszka, and in further view of Hatta disclose the limitations of claim 1 as applied above. Further, Strauss discloses discriminating at the first gateway between voice (fig. 5A; col. 11. lines 11-54) and voice band data modulated signals (fig. 5D; col. 12, lines 40-60); and switching (col. 12, lines 40 –45) at the first gateway to an alternate mode of signal processing (fig. 4, ref. 132) to process voice band data as modem tones and modulated signal instead of voice.

Regarding claim 10, Strauss in view of Scott, in further view of Shaffer, in further view of Galuszka, and in further view of Hatta disclose the limitations of claim 1 as applied above. Further, Strauss discloses that the first gateway comprises a codec (fig. 4, ref. 132), a voice band data modem (fig. 4, ref. 130), and a fax modem (fig. 4, ref. 134), the method further comprising: discriminating at the first gateway between voice, voice band data, and fax modulated signals from the first modem (col. 10, lines 25-30; col. 11, line 12-col. 12, line 65); processing the voice signals using the codec (col. 11, line 22-25); processing the voice band data signals using the voice band data modem (col. 12, lines 41-60); and processing the fax signals using the fax modem (col. 11, line 55-col. 12, line 21). It is inherent that the data APU (fig. 4, ref. 132) is a coder/decoder or codec because the identified voice signals would need to be coded into data packets and transmitted as well as received and decoded back into analog form (col. 11, lines 22-25).

Regarding claim 15, Strauss in view of Scott, in further view of Shaffer, in further view of Galuszka, and in further view of Hatta disclose the limitations of claim 1 as

applied above. Further, it is obvious to select the modulation and demodulation schemes for the first and second gateways based upon the channel rate and the capabilities of the first and second modems. Inherently, the channel rate of the narrowband network and the capabilities of the first and second modems define the overall data rate and hence the modulation scheme used at the gateways. Therefore, it is obvious to define or select the modulation and demodulation schemes based upon the inherent data rates of which the system is capable.

Regarding claim 18, Strauss in view of Scott, in further view of Shaffer, in further view of Galuszka, and in further view of Hatta disclose the limitations of claim 15 as applied above. Further, in the system of Strauss in view of Scott, and in further view of Shaffer, it is apparent and obvious to one skilled in the art that the modulation scheme at one gateway may be different than the modulation scheme at the other gateway if the channel between the first modem and the first gateway is different than the channel between the second modem and the second gateway.

Regarding claim 31, Strauss in view of Scott, in further view of Shaffer, and in further view of Galuszka disclose the limitations of claim 31 as applied above. Strauss in view of Scott, in further view of Shaffer, and in further view of Galuszka do not explicitly disclose that suspending the transmission of signals further comprises: generating a valid RNR frame; modulating the RNR frame at the first gateway; and transmitting the RNR frame to the first modem. However, Hatta teaches the use of the International Telecommunications Union X.25 protocol standard using receive-not-ready (RNR) and receive-ready (RR) frames (col. 1, line 40-col. 2, line 48). Hatta teaches that

in the case that transmission of data signals must be suspended, a RNR frame may be transmitted. Alternatively, when the data transmission is ready to resume, a RR frame may be transmitted. Such a protocol as taught by Hatta provided by the X.25 standard is widely utilized throughout the art and one skilled in the art understands the obvious application of it. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize RNR and RR frames as taught by Hatta in the data transmission method of Strauss in view of Scott, in further view of Schaffer and in further view of Galuszka because the RNR and RR frames will signify the state of the transceiver such that data is not lost when data is not ready to be accepted and reception may commence once a receiver is ready.

Regarding claim 32, Strauss in view of Scott, in further view of Shaffer, in further view of Galuszka, and in further view of Hatta disclose the limitations of claim 30 as applied above. Strauss in view of Scott, in further view of Shaffer, and in further view of Galuszka do not explicitly disclose that resuming the transmission of signals comprises: generating a valid RR frame; modulating the RR frame at the first gateway; and transmitting the RR frame to the first modem. However, Hatta teaches the use of the International Telecommunications Union X.25 protocol standard using receive-not-ready (RNR) and receive-ready (RR) frames (col. 1, line 40-col. 2, line 48). Hatta teaches that in the case that transmission of data signals must be suspended, a RNR frame may be transmitted. Alternatively, when the data transmission is ready to resume, a RR frame may be transmitted. Such a protocol as taught by Hatta provided by the X.25 standard is widely utilized throughout the art and one skilled in the art understands the obvious

application of it. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize RNR and RR frames as taught by Hatta in the data transmission method of Strauss in view of Scott, in further view of Schaffer and in further view of Galuszka because the RNR and RR frames will signify the state of the transceiver such that data is not lost when data is not ready to be accepted and reception may commence once a receiver is ready.

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Strauss in view of Scott, in further view of Shaffer, in further view of Galuszka, in further view of Hatta, and in further view of Bjarnason et al (5949819; hereafter "Bjarnason").

Regarding claim 13, Strauss in view of Scott, in further view of Shaffer, in further view of Galuszka, and in further view of Hatta disclose the limitations of claim 1 as applied above. Strauss further discloses that the narrowband network comprises a digital network (fig. 6, ref. 610). Strauss in view of Scott, in further view of Shaffer, in further view of Galuszka, and in further view of Hatta do not explicitly disclose that the modulated signals from the modem comprise pulse code modulated signals. However, Bjarnason teaches that the typical modem solution combines pulse code modulation (PCM) techniques with several existing V.34 protocol features (col. 1, lines 24-27). Bjarnason also teaches that PCM can lead to an increased data rate (col. 1, lines 27-28). Therefore, it would have been obvious to one of ordinary skill in the art at the time which the invention was made to utilize a PCM modem as taught by Bjarnason in the method of data transmission of Strauss in view of Scott, in further view of Shaffer, in

further view of Galuszka, and in further view of Hatta because PCM is a common modulation technique used by modems for increased data rates.

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Strauss in view of Scott, in further view of Shaffer, in further view of Galuszka, in further view of Hatta, and in further view of Klok et al (5930250; hereafter "Klok").

Regarding claim 14, Strauss in view of Scott, in further view of Shaffer, in further view of Galuszka, and in further view of Hatta disclose the limitations of claim 14 as applied above. Strauss in view of Scott, in further view of Shaffer, in further view of Galuszka, and in further view of Hatta do not disclose that the narrowband network comprises a satellite network. However, Klok teaches a narrowband network being a satellite network (fig 1, ref. 104). Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize a satellite network as the narrowband network as taught by Klok in the data transmission method of Strauss in view of Scott, in further view of Shaffer, in further view of Galuszka, and in further view of Hatta because it provides a flexible channel for communication of digital data.

10. Claims 16, 17, and 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strauss in view of Scott, in further view of Shaffer, in further view of Galuszka, in further view of Hatta, and in further view of The International Telecommunication Union Protocols (Recommendation V.22, hereafter "V.22"; Recommendation V.22 bis, hereafter "V.22 bis"; Recommendation V.32, hereafter "V.32"; Recommendation V.32 bis; hereafter "V.32 bis"; Recommendation V.8,

hereafter "V.8"; Recommendation V.34, hereafter "V.34"; Recommendation V.90, hereafter "V.90"; Recommendation V.42, hereafter "V.42"; Recommendation V.42 bis, hereafter "V.42 bis").

Regarding claim 16, Strauss in view of Scott, in further view of Shaffer, in further view of Galuszka, and in further view of Hatta disclose the limitations of claim 15 as applied above. Further, Scott discloses that the standards V.21, V.22, V.32, V.32 bis, V.34, V.42, and V.42 bis are commonly used in the art (col. 1, line 5-col. 2, line 20). The ITU defines and publishes the modem protocols which are utilized in the art, and they are widely known. It would have been obvious to one skilled in the art that the first and second modems may comprise V.34 modems, and it would have also been obvious for the capabilities of the first and second modems to be determined by decoding a V.8 answer sequence generated by the first and second modems. Simply, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize the ITU protocols V.34 and V.8 in the data transmission system of Strauss in view of Scott, in further view of Shaffer, in further view of Galuszka, and in further view of Hatta because they are the industry standard protocols and provide the best possible acceptance and assimilation into current systems.

Regarding claim 17, Strauss in view of Scott, in further view of Shaffer, in further view of Galuszka, and in further view of Hatta disclose the limitations of claim 15 as applied above. Further, Scott discloses that the standards V.21, V.22, V.32, V.32 bis, V.34, V.42, and V.42 bis are commonly used in the art (col. 1, line 5-col. 2, line 20). The ITU defines and publishes the modem protocols which are utilized in the art, and

they are widely known. Therefore, it would have been obvious to utilize a modem selected from the group consisting of a V.32 modem, a V.32 bis modem, a V.34 modem operating in auto-mode, and a V.90 modem operating in auto-mode, and wherein the selection of the modulation and demodulation scheme comprises detection of an 1800 Hz tone from the first modem because it follows industry standards.

Regarding claim 19, Strauss in view of Scott, in further view of Shaffer, in further view of Galuszka, and in further view of Hatta disclose the limitations of claim 15 as applied above. Further, Scott discloses that the standards V.21, V.22, V.32, V.32 bis, V.34, V.42, and V.42 bis are commonly used in the art (col. 1, line 5-col. 2, line 20). The ITU defines and publishes the modem protocols which are utilized in the art, and they are widely known. Standard bit rates are also published by the ITU and are widely known. Therefore, it would have been obvious to utilize a standard modulation and demodulation scheme at the first gateway of V.32 at a standard bit-rate, and a modulation and demodulation scheme at the second gateway of V.22 bis at a standard bit-rate because it follows industry standards.

Regarding claim 20, Strauss in view of Scott, in further view of Shaffer, in further view of Galuszka, and in further view of Hatta disclose the limitations of claim 18 as applied above. Further, Scott discloses that the standards V.21, V.22, V.32, V.32 bis, V.34, V.42, and V.42 bis are commonly used in the art (col. 1, line 5-col. 2, line 20). The ITU defines and publishes the modem protocols which are utilized in the art, and they are widely known. Standard bit rates are also published by the ITU and are widely known. Therefore, it would have been obvious to utilize a standard modulation and

demodulation scheme at the first gateway of V.32 at a standard bit-rate, and a modulation and demodulation scheme at the second gateway of V.32 at a standard bit-rate because it follows industry standards.

Regarding claim 21, Strauss in view of Scott, in further view of Shaffer, in further view of Galuszka, and in further view of Hatta disclose the limitations of claim 18 as applied above. Further, Scott discloses that the standards V.21, V.22, V.32, V.32 bis, V.34, V.42, and V.42 bis are commonly used in the art (col. 1, line 5-col. 2, line 20). The ITU defines and publishes the modem protocols which are utilized in the art, and they are widely known. Standard bit rates are also published by the ITU and are widely known. Therefore, it would have been obvious to utilize a standard modulation and demodulation scheme at the first gateway of V.32 bis at a standard bit-rate, and a modulation and demodulation scheme at the second gateway of V.32 bis at a standard bit-rate because it follows industry standards.

Regarding claim 22, Strauss in view of Scott, in further view of Shaffer, in further view of Galuszka, and in further view of Hatta disclose the limitations of claim 18 as applied above. Further, Scott discloses that the standards V.21, V.22, V.32, V.32 bis, V.34, V.42, and V.42 bis are commonly used in the art (col. 1, line 5-col. 2, line 20). The ITU defines and publishes the modem protocols which are utilized in the art, and they are widely known. Therefore, it would have been obvious that the end-to-end error correcting protocol would be detected by the first gateway by decoding a V.8 sequence transmitted by the first and second modems because it follows industry standards.

Regarding claim 23, Strauss in view of Scott, in further view of Shaffer, in further view of Galuszka, and in further view of Hatta disclose the limitations of claim 18 as applied above. Further, Scott discloses that the standards V.21, V.22, V.32, V.32 bis, V.34, V.42, and V.42 bis are commonly used in the art (col. 1, line 5-col. 2, line 20). The ITU defines and publishes the modem protocols which are utilized in the art, and they are widely known. Therefore, it would have been obvious to utilize an error correcting protocol selected from a group consisting of V.42 LAPM and an error correcting protocol as defined in V.42 Annex A because it follows industry standards.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M Perilla whose telephone number is (703) 305-0374. The examiner can normally be reached on M-F 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Chin can be reached on (703) 305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jason M. Perilla
July 12, 2004

jmp

CHIEH M. FAN
PRIMARY EXAMINER